HPV Vaccine May Cause Increase in Cancer-Causing Strains, Study Shows — But Media Puts Misleading Spin on Study's Findings

By Brenda Baletti, Ph.D.

Who'd a thunk it? Gardasil or The Defender's Top News of the Day. **It's Over.**

The HPV vaccine may increase the prevalence and distribution of some HPV strains not covered by the vaccine — a dangerous scenario that scares that are linked to cancer — resulting in unknown and potentially dire consequences, a new study published last week in the journal Vaccine has found.

The study was not designed to show that the HPV vaccine prevents cancer or that HPV or cervical cancer rates need to change, though the authors did include a brief, speculative mentioning of the possibility that vaccine-induced [herd immunity](#) might eventually control cancer.

The [CNTVNews](#), reporting on the study, said the findings showed that the HPV vaccine is so effective at preventing cancer — particularly when both boys and girls are vaccinated — that cancer-screening protocols may need to change.

The study's lead author, Dr. Elmar Joura, told CNTVNews that the HPV vaccine [Gardasil 9](#) targets 9 strains of HPV, [Gardasil 4](#) targets strains 6, 11, 16 and 18) or nine ([Gardasil 9](#) which adds strains 31, 33, 45, 52, 58 of those 9 strains.

The researchers investigated how different community-level HPV vaccination strategies might change the prevalence of different HPV strains.

They found that in both vaccination groups, four and eight years following vaccination, there was a significant decrease in the number of HPV strains targeted by the vaccine relative to the non-vaccinated group. The depletion was stronger in the gender-neutral group — where boys and girls were both vaccinated.

But they also found a higher prevalence of other, lower-risk oncogenic HPV strains in the vaccinated groups. Because the vaccine was not designed to, and the vaccine suppressed the targeted strains, the authors speculate that other strains moved into the "niche" they formerly occupied.

That means that rather than reducing the incidence of the HPV virus altogether, vaccination changed the distribution of HPV strains, they wrote. Those oncogenic strains not targeted by the vaccine that grow in the niches also are linked to cancer but at lower rates.

Other [studies](#) also have shown that [HPV vaccination programs](#) have caused the replacement of the previously most common types of HPV with [some types of](#) HPV that cause cancer.

The authors noted that "the imminent risk of viral evolutionary responses" would diminish the impact of HPV vaccination.

"It is tempting to suggest that an increase of [other oncogenic strains] at the few years' distance might cause a risk of HPV-related cancers in the near future," they said.

In other words, new strains that occupy the niche vacated by the vaccine targeted strains could become more virulent and potentially cause cancer.

The authors concluded that to control oncogenic HPVs and related cancers, more research on how long-term vaccination affects the virus' ability to evolution is imperative. They said this may have implications for future screening and vaccination strategies.

Rosenberg said the implications are that more rigorous screening protocols may be necessary. She said:

> "In HPV Vaccine on Trial, my co-authors and I discussed type replacement, a phenomenon observed with HPV vaccines and other vaccines.
>
> "The study discussed in the CNTVNews article actually raises again the possibility that vaccine-induced herd immunity could change cervical screening protocols, not a fundamental question, but a decision to screening-placing the health of untold numbers of young women at risk."

Why would 'type replacement' matter?

The study authors hypothesized that this strain-type replacement occurs because vaccine-induced immunity reduces the number of viruses susceptible to the targeted strains and leads to a biased immune response favoring infection by other strains.

Type replacement could also lead to the selection for [immune escape variants](#) — new variants that result from the selective pressure of the vaccine's imperfect vaccination.

Vaccine-favored variants have [developed after vaccination](#) in a number of diseases, including hepatitis B, pertussis, Streptococcus pneumoniae, Marek's disease, malaria and diphtheria toxin.

In some cases, like Marek's disease and malaria, research shows vaccination has led to the development of [more virulent](#) and [more transmissible](#) strains. In pertussis, the vaccine has led to the [greatest](#) outbreaks and worsening of the disease in highly vaccinated populations.

In other cases, such as Haemophilus influenzae type b, [evidence suggested that](#) [vaccination](#) caused a milder strain to become more virulent.

One possible biological explanation in these cases could be original antigenic sin, a phenomenon wherein the molecular immune memory to a previous infection or vaccination can result in a reaction to the subsequent infection that is structurally similar targets, [Jay Couey, CMO](#) staff columnist, and The Defender.

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Another related but separate mechanism — [antibody-dependent enhancement](#) — occurs when antibodies aimed at previous antigens (from infection or vaccination) have the paradoxical effect of increasing the severity of disease in subsequent infections, Couey said.

Neither of these biological possibilities are discussed in either the CDC or Gardasil package inserts, however, or in relation to the systemic toxicity the findings of HPV," Couey added.

In the study, the authors emphasized that particularly among the gender-neutral vaccine groups, the greatest vaccine-induced type replacement was between four and eight years post-vaccination, the levels of HPV diversity were similar to those of the non-vaccinated group.

The researchers found that after vaccination, non-targeted cancer-linked HPV strains increased significantly in girls, but not in boys, although the numbers were similar between the two vaccinated groups, the study found.

This raises questions about the long-term effects of the HPV vaccination on the antigenic variation and possible prevalence shifts in oncogenic HPVs, the authors noted.

Cervical cancer 'eradication' by vaccinating boys?

In the authors' [press release](#) on the study — also [reported in Medical Xpress](#) — they claimed definitively, "The most effective way to prevent cervical cancer is to give HPV vaccines to both boys and girls."

This claim was based on their finding that in the communities where boys and girls were vaccinated, they saw a decline in four types of oncogenic HPV (16, 18, 31 and 45) and in the communities where only girls were vaccinated, they saw a decline in only three types of oncogenic HPV (16, 18 and 31).

"This shows that you get stronger herd immunity if you vaccinate both boys and girls," Dr. Elmar Joura, MedUni Wien, Ph.D., "According to our calculations, it would be sufficient to vaccinate 80% of girls and boys to ensure that HPV 16 can be achieved in eight years with a relatively moderate vaccination coverage rate of gender-neutral vaccination."

The researchers found that only herd immunity would not eliminate the risk of HPV-linked cancer, given the type-replacement they observed.

Couey said these claims about the efficacy of gender-neutral vaccination are based on a questionable methodology, using a "fabulously blurred" combination of data sets.

Couey told The Defender:

> "Their 'observations' are made without any data from HPV prevalence in these populations before vaccination and using a [general linear model](#), or GLM, to estimate what HPV prevalence 'would have been' without vaccination. The authors to draw from a their data without mathematically extending it to a synthetically generated data set using a mathematical thing-technique the authors termed a graphical independence network, or GIN, model.
>
> "The distinction between conclusions drawn from real-world observations and mathematical constructions is critical, and the mathematical sleight-of-hand inference is dubiously blurred in this article and the follow-up coverage of it.
>
> "Their conclusions are not based on dispensing a null hypothesis using an appropriate statistical test, but rather on the output of a model. The interpretation of mathematical models applied to limited real-world data."

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This analysis builds on previous analyses of these same cohorts the authors did with colleagues from Merck, [CDC](#) and the [ICF & Westat Data Foundation](#).

That [research also claimed](#) that HPV vaccination with moderate coverage "eradicates" oncogenic HPV if gender-neutral, as it does not prevent infection in 2018 (but there was [no evidence](#) of type replacement) — findings the current study refutes.

Now [Big Pharma](#) corporations have taken over the cervical cancer prevention narrative.

Various agencies of the Department of Health and Human Services have spent at least tens of millions of dollars on [behavioral research](#) to increase vaccine uptake in the U.S.

Gavi, the Vaccine Alliance — [primarily](#) funded by the [Gates Foundation](#) — has [invested heavily](#) in HPV vaccines. The GAVI-funded [HPV Roadmap](#) aims to vaccinate girls in low- and middle-income countries against HPV by 2025 as part of the global plan to eradicate cervical cancer.

At the same time, HPV-Gardasil vaccine-promoted [Merck](#), which has [invested](#) [heavily](#) [in shaping the market](#) since the U.S. and Food and Drug Administration [approved the drug in 2006](#), has [recently announced](#) that its 2025 [sales of](#) [Gardasil](#) [alone](#) [may](#) [reach](#) [$](#) [10](#) [billion](#).

Merck's Gardasil was first licensed in 2006 for use in girls and women ages 9-26 to prevent four high-risk strains of HPV.

The FDA in 2009 [expanded the license for use in males](#) ages 9-26 for the prevention of genital warts and in 2011, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommended routine use in boys.

In 2014, the FDA [approved Gardasil 9](#), designed to protect against nine HPV strains, for use in the prevention of HPV-related cervical, vaginal and vulvar cancers in females and HPV-related anogenital lesions and anal cancers in females and males.

The FDA in [2018](#) also expanded the age range of potential HPV vaccines to males and females between the ages of 9 years to 45.

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4 years ago
Rather than moderating the way he people that develop various illnesses such as cervical cancer, why not look at the cause of the problem and eliminate the problem? The cause is obviously the entire population with a stunned preventative medication such as a vaccine.
It's about the money (and property dispossession), not the health.
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Exactly. Why are they giving medicines the pair? They are destroying the boys' immune systems. Why are they not focusing on the girls?
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Also, I believe, they give it to males? But it is for cervical cancer?
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You have been warned.
You have been warned.